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## Two new species of *Gnathymenus* from Ecuador (Coleoptera: Staphylinidae: Paederinae: Dolicaonina)

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**A b s t r a c t :** Two species of the dolicaonine genus *Gnathymenus* SOLIER, 1849 from Ecuador are described and illustrated, *Gnathymenus arboreus* nov.sp. and *G. spinifer* nov.sp., both of them macropterous and collected by canopy fogging in the same locality in Pastaza province. The genus now includes 77 species, 16 of which are known from Ecuador. Additional records of *Gnathymenus apterus* SOLIER, 1849 are reported from Chile.

**K e y w o r d s :** Coleoptera, Staphylinidae, Paederinae, Dolicaonina, *Gnathymenus*, Neotropical region, Ecuador, Chile, taxonomy, new species, additional records.

### Introduction

The Neotropical genus *Gnathymenus* SOLIER, 1849 previously included 75 species, 14 of which have been recorded from Ecuador. Nine of the *Gnathymenus* species known from Ecuador are macropterous, five are micropterous.

In a sample collected by canopy fogging in the Ecuadorian province Pastaza and recently sent to me by Walter Rossi (L'Aquila), two additional species of *Gnathymenus* were discovered, both of them macropterous.

### Material and methods

The material treated in this paper is deposited in the following collections:

MNB..... Museum für Naturkunde, Berlin (J. Frisch)

QCAZ ..... Museo de Zoología de la Pontificia Universidad Católica del Ecuador, Quito

cAss ..... author's private collection

The morphological studies were conducted using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena). The images of the fore-bodies and the antennae were created using a photographing device constructed by Arved Lompe (Nienburg) and CombineZ software, the remainder with a digital camera (Nikon Coolpix 995).

Body length was measured from the anterior margin of the mandibles (in resting position) to the abdominal apex, the length of the forebody from the anterior margin of the

mandibles (in resting position) to the posterior margin of the elytra, head length from the anterior margin of the frons to the posterior margin of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra, and the length of the aedeagus from the apex of the ventral process to the base of the aedeagal capsule. The "parameral" side (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

## Results

### *Gnathymenus apterus* SOLIER, 1849

**M a t e r i a l e x a m i n e d :** Chile: 1♂, Region X, Cordillera de la Costa, 45 km W Puerto Montt, Maulin env., 27.XII.2014, leg. Daccordi (cAss); 2 exs., Region IX, Prov. Cantin, Termas del Huife, 27 km ENE Pucón, 39°14'N, 71°39'E, degraded broad-leaved forest with *Notofagus*, sifted, 2.I.2006, leg. Schülke (cAss).

**C o m m e n t :** HERMAN (1981) recorded this species from several localities in Chiloe, Llanquihue, and Valdivia provinces, South Central Chile.

### *Gnathymenus arboreus* nov.sp. (Figs 1-9)

**T y p e m a t e r i a l :** Holotype ♂: "ECUADOR - Pastaza, Paya near S. Clara, 950 m, canopy fogging, 30.VII.-1.VIII.2010, leg. Rossi, Bernardi, Torres / Holotypus ♂ *Gnathymenus arboreus* sp. n. det. V. Assing 2017" (cAss). Paratypes: 16♂♂, 22♀♀: same data as holotype (cAss, MNB, QCAZ).

**E t y m o l o g y :** The specific epithet (Latin, adjective: of a tree) alludes to the habitat where the specimens were collected.

**D e s c r i p t i o n :** Body length 3.0-4.0 mm; length of forebody 1.7-2.0 mm. Coloration: head and pronotum reddish; elytra and abdomen blackish-brown to blackish, with the posterior margins of segments I-VII and the abdominal apex (segments VIII-X) slightly paler; legs, antennae, and maxillary palpi dark-yellowish to pale-reddish.

Head (Fig. 1) approximately as broad as long, lateral margins behind eyes subparallel in dorsal view; punctuation coarse and moderately dense in antero-dorsal portion, sparse and finer in posterior and median dorsal portions; interstices without microsculpture. Eyes approximately 0.7-0.8 times as long as postocular region in dorsal view. Antenna (Fig. 1) approximately 0.9 mm long.

Pronotum (Fig. 1) approximately 1.15 times as long as broad and slightly broader than head, weakly tapering posteriad; midline broadly impunctate, laterally not delimited by a distinct dorsal series of punctures; punctuation moderately fine and moderately sparse; interstices without microsculpture.

Elytra (Fig. 1) moderately long, approximately 0.9 times as long as pronotum and with marked humeral angles; punctuation sparse, fine and shallow; interstices without microsculpture. Hind wings present. Metatarsomere I longer than II, but shorter than the combined length of metatarsomeres II and III.

Abdomen approximately as broad as elytra; segments III-VI with distinct paratergites; punctuation finer and sparser on posterior than on anterior tergites; interstices with distinct transverse microsculpture; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII strongly convex.

♂: sternite VII (Fig. 2) with an oblong median impression without pubescence, lateral margins of this impression with an oblong cluster of dense modified setae directed diagonally postero-mediad, posterior margin with a small median concavity; sternite VIII (Fig. 3) approximately as long as broad and with deep and narrow posterior incision; aedeagus (Figs 4-9) of somewhat variable size, 0.38-0.45 mm long, subapically with a pair of acute lateral projections best visible in lateral view; parameres completely reduced.

**Comparative notes:** This species is distinguished from all its congeners particularly by the distinctive morphology of the aedeagus and by the distinctive shape and chaetotaxy of the male sternite VII. Based on the similar modifications of the male sternite VII and on the similar general morphology of the aedeagus, *G. arboreus* appears to be closely allied to *G. tungus* HERMAN, 1981 (Ecuador), from which it differs by external characters (*G. tungus*: greater body size; head blackish; antennae and maxillary palpi partly infuscate; head tapering posteriorly and with less pronounced posterior angles; pronotum distinctly tapering posteriorly; elytra longer), by the shape and chaetotaxy of the male sternites VII and VIII, and by the shape of the aedeagus (*G. tungus*: ventral process apically distinctly bifid in ventral view). For illustrations of *G. tungus* see HERMAN (1981).

**Distribution and natural history:** The type locality is situated in the west of Pastaza province, East Ecuador, at an altitude of 950 m. The type specimens were collected by canopy fogging, suggesting that *G. arboreus* is arboricolous. Some of the specimens are teneral.

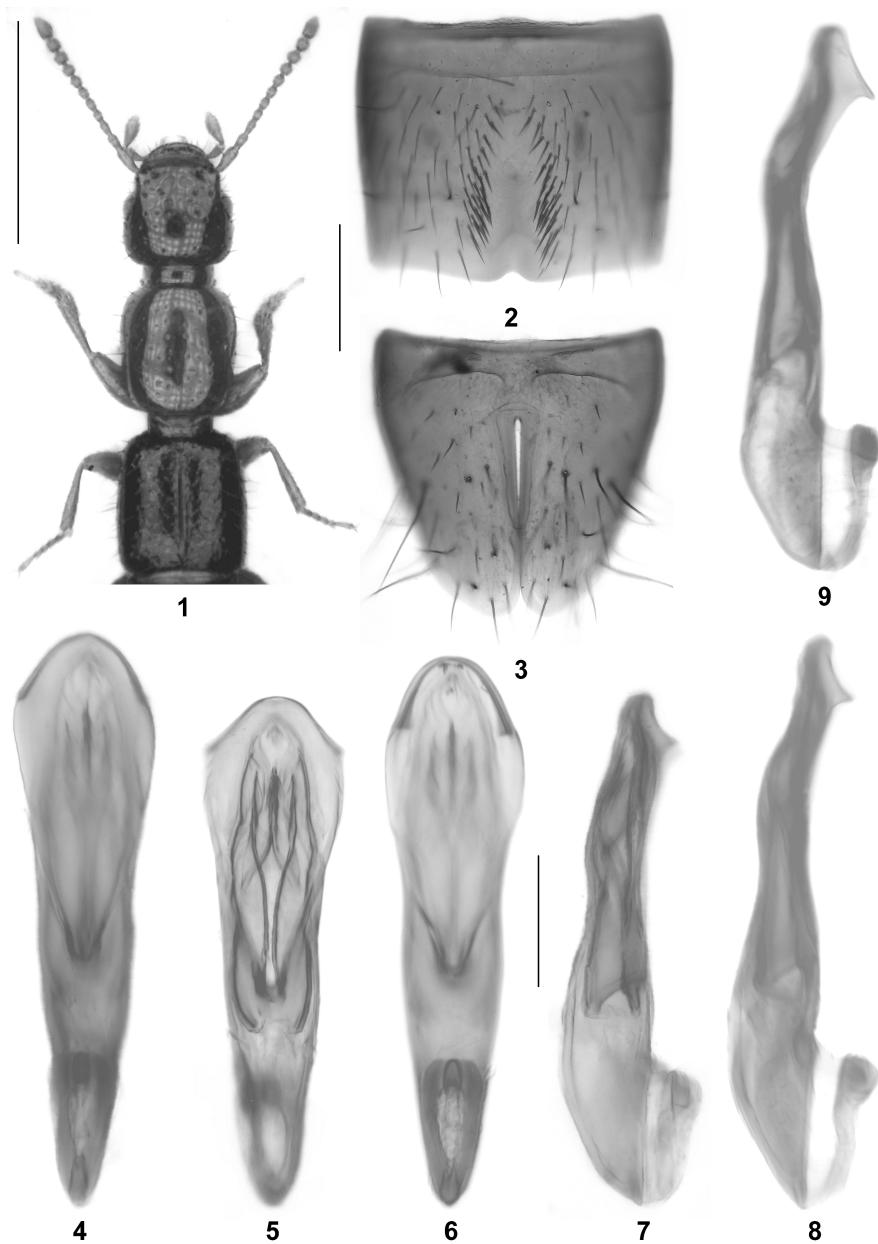
#### ***Gnathymenus spinifer* nov.sp. (Figs 10-17)**

**Type material:** Holotype ♂: "ECUADOR - Pastaza, Paya near S. Clara, 950 m, canopy fogging, 30.VII.-1.VIII.2010, leg. Rossi, Bernardi, Torres / Holotypus ♂ *Gnathymenus spinifer* sp. n. det. V. Assing 2017" (cAss). Paratypes ♂: same data as holotype (cAss).

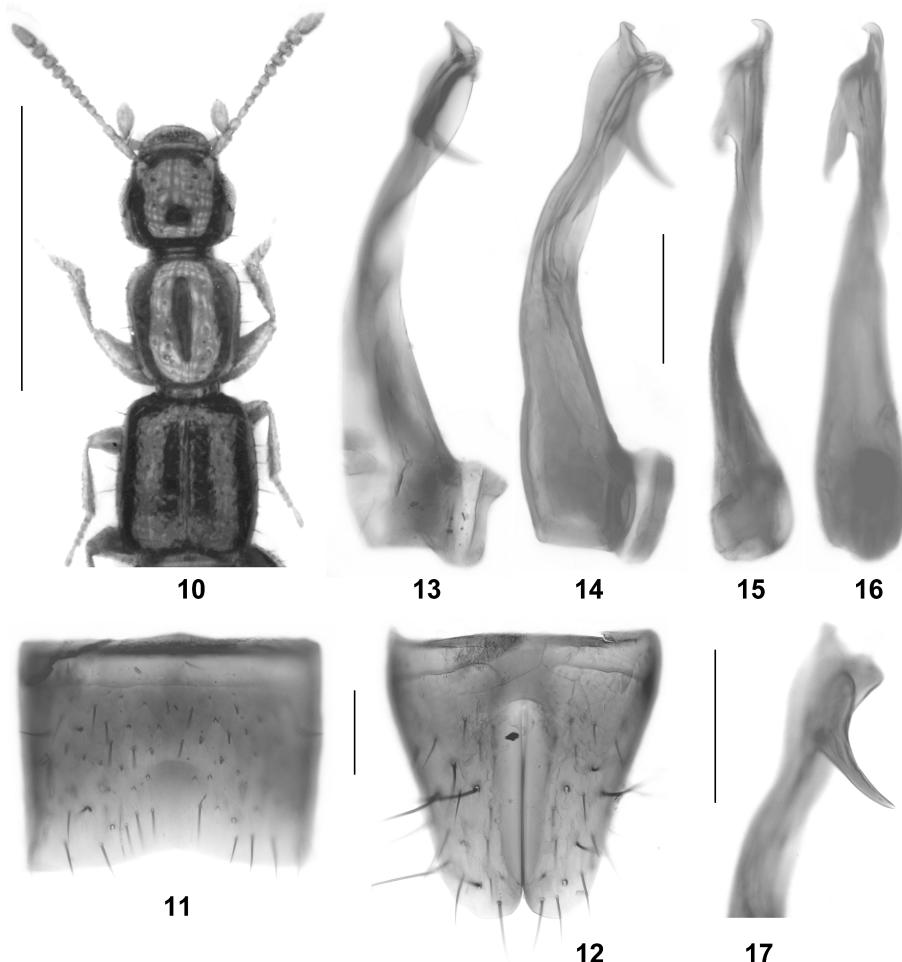
**Etymology:** The specific epithet (Latin, adjective: carrying a spine) alludes to the conspicuous subapical spine of the aedeagus.

**Description:** Very small species; body length 2.6-3.0 mm; length of forebody 1.4-1.5 mm. Coloration: head reddish to reddish-brown; pronotum pale-reddish to reddish; elytra dark-brown to blackish-brown; abdomen bicoloured with segments III-VI reddish and the posterior segments brown to dark-brown; legs, antennae, and maxillary palpi yellowish.

Head (Fig. 10) weakly transverse, approximately 1.08 times as broad as long, lateral margins behind eyes converging in dorsal view; posterior angles moderately marked; punctuation of dorsal surface sparse, near dorsal margin of eyes with a cluster of coarser and denser punctures on either side; interstices without microsculpture. Eyes longer than postocular region in dorsal view. Antenna (Fig. 1) approximately 0.6 mm long and with elongate antennomere XI.



Figs 1-9: *Gnathymenus arboreus* nov.sp.: (1) forebody; (2) male sternite VII; (3) male sternite VIII; (4-9) aedeagus in ventral and in lateral view. Scale bars: 1: 1.0 mm; 2-3: 0.2 mm; 4-9: 0.1 mm.



**Figs 10-17:** *Gnathymenus spinifer* nov.sp.: (10) forebody; (11) male sternite VII; (12) male sternite VIII; (13-16) aedeagus in lateral and in ventral view; (17) subapical spine of aedeagus in lateral view. Scale bars: 10: 1.0 mm; 11-17: 0.1 mm.

Pronotum (Fig. 10) approximately 1.12 times as long as broad and as broad as head, distinctly tapering posteriad; midline broadly impunctate, laterally delimited by a somewhat irregular dorsal series of punctures on either side; punctuation moderately fine and moderately sparse; interstices without microsculpture.

Elytra (Fig. 10) approximately as long as pronotum, or nearly so, and with marked humeral angles; punctuation sparse, fine and shallow; interstices without microsculpture. Hind wings present. Legs short and with short tarsi; metatarsomere I longer than II, but shorter than the combined length of metatarsomeres II and III.

Abdomen narrower than elytra; segments III-VI with distinct paratergites; punctuation finer and sparser on posterior than on anterior tergites; interstices with distinct transverse

microsculpture; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII strongly convex.

♂: sternite VII (Fig. 11) with rather sparse unmodified pubescence, posterior margin broadly concave; sternite VIII (Fig. 12) approximately as long as broad and with deep and narrow posterior incision; aedeagus (Figs 13-17) 0.43 mm long, very slender, somewhat asymmetric, and subapically with a prominent sclerotized spine; parameres completely reduced.

**C o m p a r a t i v e n o t e s :** This species is characterized by its small size, rather long elytra, an elongate antennomere XI, large eyes, its coloration, a weakly modified male sternite VII, and particularly by the conspicuous morphology of the aedeagus. Regarding its male sexual characters it is somewhat similar to *G. angulus* HERMAN, 1981 (Ecuador: Napo), which differs by larger body size, coloration (particularly of the abdomen), a posteriorly less concave male sternite VIII, and by the less intricate structure of the aedeagus. For illustrations of *G. angulus* see HERMAN (1981).

**D i s t r i b u t i o n a n d n a t u r a l h i s t o r y :** The type locality and the circumstances of collection are identical to those of *G. arboreus*.

### Acknowledgement

I am indebted to Walter Rossi (L'Aquila) for the generous gift of Staphylinidae from Ecuador.

### Zusammenfassung

Zwei Arten der Gattung *Gnathymenus* SOLIER, 1849 aus Ecuador werden beschrieben und abgebildet: *Gnathymenus arboreus* nov.sp. und *G. spinifer* nov.sp. Beide Arten sind geflügelt und wurden in der selben Lokalität in der Provinz Pastaza durch Canopy Fogging gesammelt. Die Gattung enthält damit derzeit 77 Arten, von denen 16 aus Ecuador bekannt sind. Weitere Nachweise von *Gnathymenus apterus* SOLIER, 1849 werden aus Chile gemeldet.

### References

ASSING V. (2015): New species and additional records of Dolicaonina from Ecuador (Coleoptera: Staphylinidae: Paederinae). — Linzer Biologische Beiträge **47** (2): 1119-1132.

HERMAN L.H. (1981): Revision of the subtribe Dolicaonina of the New World, with discussions of phylogeny and the Old World genera (Staphylinidae, Paederinae). — Bulletin of the American Museum of Natural History **167**, Article 6: 327-520.

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